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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/759,419	01/20/2004	Takahiko Iriyama	VX012307	7769

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EXAMINER	
SHEEHAN, JOHN P	

ART UNIT	PAPER NUMBER
1742	

DATE MAILED: 04/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/759,419	IRIYAMA ET AL.	
	Examiner	Art Unit	
	John P. Sheehan	1742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *31 January 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,7,14 and 19-25* is/are pending in the application.

4a) Of the above claim(s) *9, 11-13, 16 and 18* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,7,14 and 19-25* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Interpretation

1. In the previous Office action the Examiner stated that claim 1 recites the claimed SmFeN magnet material in terms of a formula;

$$Sm_xFe_{100-x-v}N_v.$$

and that claims 4 to 6 at that time, (claims 4 to 6 are now canceled) optionally added an additional rare earth and Co to the claimed magnetic material. In view of the fact that claims 4 to 6 optionally added additional elements to the magnetic material of claim 1, the composition of the magnetic material recited in claim 1 was not considered to be limited to the Sm, Fe and N recited in claim 1, but rather was considered to be open to additional elements.

In response to this interpretation by the Examiner, applicants rolled claims 4 to 6 into independent claim 1 and state that claim 1 is now closed to any additional components. The Examiner does not agree that claim 1 is now closed. It is the Examiner's position that merely rolling dependent claims 4 to 6 into independent claim 1 and not amending claim 1 any other way such as by the insertion of the transitional term "consisting of" does not close claim 1. Accordingly, the instant claims do not preclude the presence of Zr as taught by Fukuno et al.

2. In claim 22 the subscripts "a" and "b" are defined as $\leq$30, that is, as less than 30 which encompasses zero. In view of this, claim 22 and dependent claims 23 to 25

encompass the embodiment wherein there is no Co or M^3 present in the claimed magnet powder.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 22 to 25 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

I. In new claim 22, line 6, the limitation "b≤ 30" does not find support in the application as filed, MPEP 2163.05, Section III.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 1, 7, 14 and 19 to 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukuno et al. (Fukuno, US Patent No. 5,916,376).

Fukuno teaches a rare earth-iron-nitrogen magnetic material with the $TbCu_7$ crystal structure having a composition that, in view of the explanation above under the heading "Claim Interpretation", overlaps the composition recited in applicants' claims 1, 7, 14 and 19 to 25 (column 2, lines 29 to 43). Fukuno also teaches a specific example of a Sm-Fe-N alloy having the $TbCu_7$ structure (column 11, line 41), a composition that with the exception of the Sm content is encompassed by applicants' claims, a grain diameter of 200 nm (0.2 microns) and a thickness of 19 microns that are also encompassed by the instant claims. (columns 11 and 22, Table 1, Example 105). Fukuno teaches that this alloy composition is pulverized and therefore is in powder form (column 11, lines 58 to 59). It is the Examiner's position that the phrase, "up to" used to describe the lower limit for the amount of rare earth that can be substituted for Sm and the lower limit for Co that can be substituted for Fe in claims 1 and 22 reads on zero. The claims therefore do not require the presence of additional rare earths or the presence of Co. Thus, Fukuno's Example 105 closely approximates the applicants' claimed alloy composition. Fukuno also teaches that the disclosed magnetic powder is used to make bonded magnets as recited in applicants' claim 14 (for example, see column 1, line 6 to 8 and column 10, lines 36+).

The claims and Fukuno differ in that Fukuno does not teach the exact same proportions as recited in the instant claims. Regarding Fukuno's Example 105, the only difference between the instantly claimed alloy and Fukuno's Example 105 is that Fukuno's Example 105 contains 7 at.% Sm while the instant claims recite a minimum Sm content of greater than 7.1, 7.2, 7.3 and 7.5 at.%.

However, one of ordinary skill in the art at the time the invention was made would have considered the invention to have been obvious because the alloy proportions taught by Fukuno overlap the instantly claimed proportions and therefore are considered to establish a prima facie case of obviousness. It would have been obvious to one of ordinary skill in the art to select any portion of the disclosed ranges including the instantly claimed ranges from the ranges disclosed in the prior art reference, particularly in view of the fact that;

> "The normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages", In re Peterson 65 USPQ2d 1379 (CAFC 2003).

Also, In re Geisler 43 USPQ2d 1365 (Fed. Cir. 1997); In re Woodruff, 16 USPQ2d 1934 (CCPA 1976); In re Malagari, 182 USPQ 549, 553 (CCPA 1974) and MPEP 2144.05. Regarding Fukuno's Example 105, it is the Examiner's position that, Fukuno's Example 105 that contains 7 at% Sm closely approximates the instantly claimed alloy composition that requires greater than 7.1, 7.2, 7.3 and 7.5 at% Sm and that the compositions are so close that one would have expected that Fukuno's Example 105 and the claimed alloy to have the same properties, Titanium Metals v. Banner, 227 USPQ 773 and MPEP 2144.05.

Response to Arguments

7. Applicant's arguments filed January 31, 2006 have been fully considered but they are not persuasive.

8. Applicants argue that the case law, Titanium Metals V. Banner, cited by the Examiner in making the prior art rejection, is not relevant because the underlying fact situation is different, that the claims now require greater then 7.1, 7.2, 7.3 and 7.5 at. % Sm whereas Fukuno's Example 105 teaches 7 at. % Sm and that these Sm proportions are mutually exclusive and that since Fukuno's Example 105 is an example of a prior art alloy one of ordinary skill in the art would not be motivated to modify Fukuno's Example 105. The Examiner is not persuaded. Although the fact situation here and in Titanium v. Banner is not exactly the same, it is the Examiner's position that fact situations in case law and application under consideration are rarely, if ever, exactly the same. Further, one of the underlining principles in Titanium v. Banner, that alloy compositions that closely approximate each other would be expected to possess the same properties is applicable in the instant case. Applicants have not controverted this position by the Examiner.

9. Applicants argue that Fukuno's disclosure requires the presence of zirconium and that one of ordinary skill in the art would not be motivated to eliminate zirconium from Fukuno's composition. The Examiner is not persuaded. In view of the explanation above, under the heading "Claim Interpretation", applicants' claims do not preclude the presence of zirconium as taught by Fukuno.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John P. Sheehan whose telephone number is (571) 272-1249. The examiner can normally be reached on T-F (6:45-4:30) Second Monday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

John P. Sheehan
Primary Examiner
Art Unit 1742

jps